

# STOCKPILE ABATEMENT ISSUES

Presented by

TERRY A. GRAY

T.A.G. RESOURCE RECOVERY

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# STOCKPILE SIZE

RANGE FROM SMALL SITES



# TO LARGE SITES





# PROTECTING BLACK GOLD





# TO LARGER SITES





# FROM WHOLE TIRES



# TO SHREDDED TIRES





# TO MIXTURES





# FROM SIMPLE SITES



# TO COMPLEX CHALLENGES





# IDENTIFIED ISSUES

- QUANTITY ESTIMATION
- COMMUNICATIONS
- END-USE MARKETS

# QUANTITY ESTIMATION

- $\text{VOLUME} \times \text{DENSITY} = \text{QUANTITY}$
- $\text{VOLUME} = \text{L} \times \text{W} \times \text{H} = \text{YARDS}^3$
- $\text{DENSITY} = \text{PTE/YARD}^3$



# VOLUME

- APPROXIMATE BOX – FROM SIDE MIDPOINTS
- OTHER GEOMETRIC SHAPES
- SHORTCUTS
  - CALIBRATED PACE
  - DEPTH FROM GROUND (AT DISTANCE)
  - AERIAL PICTURES (VERTICAL)
  - AERIAL SURVEY

# DENSITY

## PTE CONCEPT

- USED TO ESTABLISH STOCKPILE WEIGHT
- INDEPENDENT OF TIRE SIZE AND AVERAGE TIRE WEIGHT



# WHOLE TIRE DENSITY

## PRIMARY IMPACT FACTORS

- DEPTH : INCREASES DENSITY  $> 10'$
- AGE : INCREASES DENSITY
- TEMPERATURE : INCREASES DENSITY
- RIMS : DECREASE DENSITY

# WHOLE TIRE DENSITY

## EXAMPLES

## DENSITY ( $\frac{\text{PTE}}{\text{YD}^3}$ )

WHOLE TIRES ON RIMS

7

LOOSE <10 FEET DEEP

10

LACED

12-16

STACKED

13-18

MAX – DEEP, OLD, HOT

26

# SHREDDED TIRE DENSITY

## PRIMARY IMPACT FACTORS

- SHRED SIZE : SMALLER = DENSER
- WIRE CONTENT : IN = DENSER
- DEPTH : INCREASES DENSITY
- EQUIPMENT MOVEMENT :  
INCREASES DENSITY



# SHREDDED TIRE DENSITY

<u>EXAMPLE</u>	<u>DENSITY (PTE/YD<sup>3</sup>)</u>
COARSE	30 – 60
TDF	35 - 65

# OTHER FACTORS IMPACTING ESTIMATE

- CONTAMINATION – INITIAL AND DURING REMOVAL
- RIMS AND OTHER WASTES
- GEOGRAPHY – HOLES/TRENCHES
- WALK PILE TOP – ELEVATION AND DENSITY VARIATIONS

# COMMUNICATIONS

## MANY PARTIES INVOLVED

- CONTRACTOR
- LOCAL GOVERNMENT
- FIRE DEPARTMENT
- POLITICIANS
- PRESS



# CONTRACTOR

## DETAILED PLANS AND SPECIFICATIONS

- SITE DESCRIPTION
- QUANTITY ESTIMATE
- OPERATING PROCEDURES
- FENCING
- LIGHTING
- FIRE LANES
- REMOVAL SEQUENCE
- STABILIZED ACCESS/PERIMETER
- VEGETATION CONTROL
- WATER SOURCE/DISTRIBUTION
- RUNOFF/OIL CONTROL
- FIRE PLAN

# LOCAL GOVERNMENT, POLICE, FIRE

- ROLES DURING ABATEMENT
- CONTINGENCY PRE-PLANNING
- CONTACT LISTS
- EMERGENCY RESPONSE CONTACTS/PROCEDURES

# POLITICIANS/PRESS

- PRIMARY CAUSES OF FIRE
  - OWNER/OPERATOR
  - PUBLIC ATTENTION
- PRE-ABATEMENT PUBLICITY  
DRAWS ATTENTION AND  
INCREASES RISKS
- AT COMPLETION
  - LAST TIRE REMOVAL
  - BEFORE/AFTER PICTURES
  - TO LOCAL LEGISLATORS



# END-USE MARKETS

- CREATE, DEVELOP OR PARTICIPATE
- DO NOT DOMINATE EXISTING MARKETS
- RECOGNIZE COST PREMIUM
- MUST TOLERATE CONTAMINATION, SUCH AS CE AND TDF
- MORE PROCESSING, MORE IMPACT, SO GENERALLY NOT CRUMB

# SECRETS TO SUCCESS

- GOOD PLANNING
- GOOD CONTRACTOR
- GOOD COMMUNICATIONS
- GOOD LUCK

